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Technical Communication Strategies to Addressing E-governance through a Critical Usability Lens

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Abstract: While the 21st century has witnessed the rapid adoption of digital technologies to reform economies and foster civic participation, the implementation of e-governance in sub saharan African regions like Nigeria has faced multiple criticisms. Although lauded as a viable means of leveraging information and communication technology (ICT) to improve the delivery of government services, e-governance has degenerated in Nigeria despite progressive policy frameworks. While several studies have investigated e-governance from a macro level perspective, focusing on the sociopolitical and infrastructural barriers, this study shifts the focus to the micro level challenges that reflect everyday frustrations encountered by individuals navigating e-governance platforms. This study adopts a user centric approach that synthesizes scholarship from technical communication scholars, articulating a Critical Socio Technical Usability Analysis (CSTUA) to identify effective design and communication techniques for e-governance that recognizes a diverse linguistic landscape like Nigeria. Addressing the micro level usability challenges that impede citizens' access to essential government services is fundamental in reiterating the very promise of e-governance –to democratize sociopolitical and economic access.

Keywords: technical communication, design, iteration, design justice, multivocality, e-governance, linguistic justice

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Background of Study

The 21st century has witnessed the rapid adoption of digital technologies in every spectrum of society, from reforming economies to fostering civic participation and facilitating transparent institutional practices. Embracing digital technologies has become essential for countries to achieve inclusive development and provide equitable access to digital interventions (OECD, 2024). While the digital evolution may have brought significant advancement to societies, it has also introduced systemic challenges such as social exclusion, workforce displacement, and the digital divide. These challenges underscore the increasing relevance of e-governance, a viable means of leveraging information and communication technology (ICT) to improve the delivery of government services to the people (Rossel & Finger, 2007).

E-governance has emerged as a potential solution to social and economic challenges by ensuring inclusive access to public services and upskilling vulnerable populations. For instance, Kumar (2020) describes how initiatives like India's Mobile-First service delivery have been effectively adopted to reduce systemic exclusion. Other countries like Estonia have applied a similar approach through their blockchain-based governance to build public trust (Semenzin et al., 2022). However, the implementation of E-governance in subsaharan African regions has faced multiple criticisms. Ifinedo (2006) highlights inadequate ICT infrastructure and lack of skilled ICT personnel as a few factors that have significantly hindered the efficiency of E-governance in Nigeria. In addition, Galal-Edeen and Abdel-Fattah (2008) highlight the shortage of trained and qualified personnel to operate e-governance infrastructures as a major challenge. These limitations in human capacity can translate into micro-level usability challenges that affect the end-users of these e-governance platforms.

The World Bank describes e-governance as the "deployment of ICT to ensure effective governance via public participation" (World Bank, 2001). In Nigeria, digital governance has degenerated despite the establishment of progressive policy frameworks such as the National E-Government Master Plan (NEGM). The NEGM, launched in 2021, was introduced to unify e-governance across five pillars: citizen empowerment, service integration, cybersecurity, digital infrastructure, and interoperable databases (Pshenichnikova, 2024). However, there have been several setbacks. For instance, 72% of individuals in rural communities lack steady electricity to use the Internet over time (Macrotrends, 2025). According to a Data Reportal (2024), internet access in Nigeria is at approximately 45.5% nationally, with 103 million internet users out of a total population of about 226.4 million. This indicates that 54.5% of Nigerians, or approximately 123.4 million people, remained offline at the beginning of 2024. Without internet connectivity, these individuals in rural communities are unable to access e-government platforms focusing on education, healthcare information, and economic opportunities. These statistics illustrate the evident macro-level challenges of e-governance in Nigeria.

While these macro-level challenges have been (and still are) investigated, this study shifts the focus to the micro-level challenges that reflect everyday frustrations encountered by individuals just trying to navigate e-governance platforms. If the platforms are poorly designed, difficult to use, or below the linguistic radar, then addressing infrastructural challenges alone will not suffice. A study evaluating Nigerian state government websites found that none fully conformed to WCAG 2.0 accessibility standards, though most performed above average in overall

accessibility tests (Adepoju et al., 2016). The need for a micro-level focus stems from the fact that, at its core, e-governance is about the people. No matter how good the infrastructure is, if users find the platforms confusing, frustrating, or irrelevant, then it will be a counter-productive macro-level effort. Addressing the micro-level usability challenges that impede citizens' access to essential government services is fundamental in reiterating the very promise of e-governance – to democratize socio-political and economic access.

While several studies in social sciences and computer science have investigated e-governance from a macro-level perspective, focusing on the socio-political and infrastructural barriers to successful e-governance in Nigeria (Abdulkareem & Ramli, 2021; Omeire & Omeire, 2014; Oghuvbu, 2018), a micro-level viewpoint centered on user experience is essential to understand why improvements to infrastructure may still result in low overall effectiveness of e-governance initiatives in achieving their intended societal impact. There are a handful of studies that have explored e-governance from a micro-level perspective, but to date, no study has invoked technical communication to address user-centered challenges in e-governance.

Nonetheless, technical communication scholars call for more investigation into "how communication can amplify the agency of oppressed people – those who are materially, socially, politically, and/or economically under-resourced" (Acharya, 2022). Adopting a technical communication approach is essential to ensure that e-governance systems are truly citizen-centered and socially just, aligning with the Society of Technical Communication's (STC) core principles of user advocacy and the ethical imperative in creating technologies that empower all members of society.

E-governance in Nigeria

The emergence of e-governance in Nigeria can be traced to the adoption of the national policy on Information Technology (IT) in 2001, which aimed to use ICT to enhance governance, promote transparency, and strengthen democracy (Awoleye et al., 2008). The National Information Technology Development Act (NITDA) of 2007 provided a legal basis for ICT development and e-governance initiatives. Programs like E-Nigeria were launched to connect communities and government institutions through ICT (Fatile, 2012). Recent initiatives, such as consultations on the National Digital Economy and E-Governance Bill across all 36 states and Abuja, have involved diverse stakeholders from government, private sector, and civil society to ensure inclusivity and broad-based support (Ministry of Communications, Innovation & Digital Economy, 2024). Despite having one of the most extensive tech startup ecosystems across Africa, and with a mobile teledensity (number of telephones per 100 people in a given area) of 108% by 2022 (the highest in Africa), Nigeria ranked 140th (out of 193) in the United Nations (UN) 2022 E-Government Development Index (EGDI) (Pshenichnikova, 2024; Afieroho et al., 2023). This paradox places Nigeria as a potential investigative landscape to understand barriers to digital governance, especially in rural regions, where only 28% of citizens can access basic digital intervention platforms.

Despite the unrelenting efforts by the Nigerian government through the NITDA to foster rapid digital engagement and participation in e-governance, the digital skill gap in the informal workforce still limits NITDA's digitalization efforts (Okonkwo et al., 2024). While addressing

this digital skill gap through government-led training programs may be effective, this approach risks overlooking the systemic design flaws in e-governance platforms that hinder accessibility.

A user-centric investigation demands rigorous evaluation of e-governance websites and apps to ensure they reflect the linguistic, cultural, and technical realities of their users. Omohwovo et al. (2020) found that 15% of Nigeria's e-government platforms were adequate in terms of functionality and user-friendliness, while 85% had poor user experience, making it difficult for users to engage with the platform. Alazemi and Al-Shehab (2024) join the conversation by highlighting content quality and relevance as key factors affecting the user experience of e-governance. By employing a micro-level lens to usability issues, we can pinpoint the actual pain points faced by the users and articulate culturally relevant tailored solutions that can improve the user experience. This paper thus examines how usability principles and social justice frameworks can inform more effective user-centered e-governance design, ultimately paving the way for a more connected and equitable society.

More specifically, this study introduces a critical method developed from a comprehensive synthesis of technical communication scholarship. This framework, Critical Socio-technical Usability Analysis (CSTUA), is effectively structured to microscopically analyze a system and efficiently articulate ethically grounded technical communication strategies to address intricate usability concerns. This study uses CSTUA to investigate Nigeria's National Identity Management Commission (NIMC) website (https://nimc.gov.ng). The NIMC website is the official online gateway for Nigeria's National Identity Management Commission. It provides information on obtaining a National Identification Number (NIN), the e-ID card, verification services, and other resources related to the national identity system.

To analyze this website for usability concerns and the broader social justice implications, this research will examine and synthesize several scholarly works within and beyond the technical communication field, focusing on usability and social justice. The goal is to identify significant ethically guided practices that are applicable to a country like Nigeria, with its diverse user population and unequal digital literacy landscape, thereby providing a necessary analytical toolkit for critically evaluating design systems.

Literature Review: Identifying Usability and Social Justice Frameworks

Technical Communication as a field has grappled with series of critical turns as a result of social, cultural, technological, political, and ethical developments that compel scholars and practitioners to interrogate power, equity, and inclusivity in knowledge production (Agboka, 2013; Jones et al., 2016). As technical communication prioritizes understanding and meeting the needs of the intended audience, this literature review synthesizes scholarship primarily from technical communication scholars to develop the Critical Socio-Technical Usability Analysis (CSTUA). This framework serves as an extension and integration of the field's critical turn. It creates a structured methodology for applying social justice principles directly to usability analysis. CSTUA is built on the anchors of User-Centered Design (UCD), Rhetorical Accessibility, and Plain Language. Through a critical usability lens, it interrogates power structures in digital systems, amplifies marginalized voices, and prioritizes equitable design systems.

User-Centered Design (UCD) and its Social Justice Dimensions

User-centered design (UCD) is a practice that positions the needs, goals, and characteristics of users at the center of the design and development process (Norman, 2013). UCD engages in understanding users through user research, usability testing, and iterative design (Rubin & Chisnell, 2008). The goal of UCD is for systems to be usable, efficient, and satisfying for the end-users. Nielsen's (1993) heuristics serve as an important guide to addressing usability concerns. He identifies the following principles: visibility of system status, match between system and real-world, user control and freedom, consistency and standards, error-prevention, recognition rather than recall, flexibility and efficiency of use, aesthetic and minimalist design, and help and documentation. While these guidelines are essential for promoting effective user interactions, they may not fully address the unique complexities of users in a multicultural landscape. Walton et al. (2019) argue that objective design choices in technical communication, particularly within UCD frameworks, are not value-neutral and can inadvertently introduce or reinforce ethical-related concerns. The very act of defining user requirements and establishing usability criteria can, despite designers' best intentions, embed unconscious biases and perpetuate existing social hierarchies within digital systems. As Redish (2010) suggests, proactive measures such as conducting early user research, detailed task analysis, and iterative testing are ethically imperative strategies to identify and mitigate potential biases and ensure that design choices do not inadvertently exacerbate societal inequities.

Furthermore, Jones et al. (2016) critique apolitical technical communication practices and propose a social justice oriented “ante-narrative” that amplifies marginalized voices. This advocacy for a critical turn can also be traced to Hart-Davidson’s (2001) scholarship on UCD that acknowledges the user's social context, broadening the scope to consider ethical implications. In similar fashion, Agboka (2021) calls for a more local, culturally relevant, and community-centered technical communication, arguing for researchers and practitioners to go beyond the Western-centric usability conceptions and seek a local community to understand their needs and specific context. Sun (2012) shares a corresponding view, as she emphasizes the importance of understanding cultural nuances in UCD, stating how cultural factors can influence user interactions with technology. Understanding these cultural factors may require UCD methodologies that prioritize Indigenous user needs through iterative feedback and local partnerships (Bay et al., 2018). Tham (2021) demonstrates this participatory process with an ethnographic study of academic maker spaces. His work validates how participatory design can foster equitable innovation.

In addition, Nigerian Indigenous scholars have identified practices in the three major ethnic groups that offer models for participatory equity in contemporary digital design. Mohiuddin and Islam (2016) examine *Shura*, a form of participatory management in the Hausa community, which encourages consensus-building among stakeholders to make decisions that benefit the collective. This practice draws from historical Islamic examples where consultation was mandatory for matters of community importance. This principle is particularly relevant in northern Nigeria, where Hausa communities, comprising over 20% of the population, have integrated *Shura* into their governance structures. This practice was first recognized in traditional emirates where emirs consult with councils of elders and advisors to resolve disputes and plan

communal activities, thus promoting social harmony and equitable resource distribution (Sucilawati, 2020).

A similar practice exists in the eastern part of Nigeria among the Igbo community, where the concept of *Oha na eze ndi Igbo* (the people and the king, or assembly of the people) emphasizes collective problem-solving and democratic participation. Based on historical context, the Igbo socio-political system is profoundly decentralized and republican. The village assemblies originally comprised all adult males, but in recent times, it has increasingly recognized women's participation in decision-making and community development (Korieh & Keke, 2023; Onwuatuegwu, 2020; Ekweariri, 2020). This existing decentralized model can serve as a blueprint to enhance participatory equity in digital and institutional platforms.

Similarly, the Yoruba tribe in southwestern Nigeria presents a significant practice of inclusive consultative governance. Leadership, dispute resolution, and important community decisions usually involve the Kingmakers and elders, who consult the *Ifa* oracle to ensure choices are based on communal consensus and spiritual wisdom (Salami, 2006). This cooperative process is reinforced by the involvement of councils like the *Oyo-mesi* and *Ogboni*, which act as checks and balances against abuses of power. The oral tradition tied to *Ifa* serves as a spiritual ethical guidance. This practice maintains inclusivity and durability of Yoruba Indigenous governance in contemporary society (Jegede & Adegoke, 2016).

These systems collectively highlight how Indigenous epistemologies in Nigeria already provide a framework to counteract colonial legacies of top-down governance. Mirroring this approach in e-governance promotes a more culturally resonant and accessible digital system. These collaborative principles position users as co-creators rather than passive recipients. As highlighted in the Igbo restorative justice models, this collaboration ensures e-governance in Nigeria is process-oriented and humane (Elechi, 2008). A practical reference is Nigeria's multilingual AI initiatives in 2024, which include Igbo language support from collaborations with local linguists to address linguistic marginalization (Digital Watch, 2024). Such co-design methods, as Sanders and Stappers (2008) suggest, democratize innovation and prioritize equity. To further extend the effort in democratizing innovation, this review addresses other fundamental barriers to UCD by focusing on the plain language principle.

Plain language is a style of communication that prioritizes clarity and conciseness of information and, therefore, ensures understanding or easy access to the intended audience (Redish, 2007). Building on this foundation, Dreher (2020) argues that plain language in technical communication, particularly in science and engineering, should prioritize the users by reducing cognitive overload to avoid excluding non-experts. Similarly, Willerton (2015) calls for the adoption of plain language in legal and policy contexts due to the legalese, which may perpetuate power imbalances. Hence, the evaluation of plain language is essential for promoting linguistic equity. Plain language in this context becomes a matter of not just usability but equity in access to information and participation in democratic processes in the digital age. However, relying solely on clarity and conciseness may still be insufficient when investigating diverse cultural settings. As Agboka (2021) mentions, culturally relevant and community-centered approaches are essential to effectively understand the target audience's needs. Also, Jones and Williams (2017), in their critical evaluation of African American homebuyers' mortgage documents,

describe how strictly adhering to plain language principles may not confront the root causes of exclusion. Hence, while the application of plain language principles in this study is necessary for evaluating linguistic accessibility, a critical approach is essential to sufficiently understand social justice implications.

To adequately address the ethical concerns of plain language for linguistic access, Melonçon (2017) advocates for a rhetorical approach to accessibility which she terms "Rhetorical Accessibility." This approach suggests that accessibility is not simply a checklist of technical requirements; it is a rhetorical concern that inquires about power dynamics, identity, and social justice. Extending this perspective, Lawrence (2023) reframes linguistic accessibility in speech technologies as a matter of linguistic justice. Her study addresses a systemic issue in global institutions, where differences in accents and dialects create "listening biases" in speech recognition technologies. Her approach complements the CSTUA by advocating for the dismantling of exclusionary power structures in technological design systems and the amplification of diverse or often silenced voices. This goes in line with Russ and Hamidi's (2021) argument that accessibility is a struggle for social justice that advocates for tearing down the technological barriers and deeply entrenched societal and attitudinal bigotry against people with disabilities. This observable trend of unequal design and technology systems in global communication elicits a call for action that centralizes anti-bias approaches in research, teaching, and policy (Black et al., 2024).

Overall, this scholarly synthesis gestures the implementation of social justice oriented UCD principles that can shape the dynamics in communication between public service institutions and the communities they serve. Effective implementation of the synthesized framework could serve as a driving force behind the next wave of e-governance systems, online interactions, and methods for public service delivery that anchor inclusivity and accessibility as key guiding principles. Hence, advancing the clarion call for the need to promote social justice through inclusive communication.

Framework Analysis: A Critical Socio-Technical Usability Analysis

To effectively analyze the NIMC website (https://nimc.gov.ng) through a user-centric lens, it is important to review the embedded social justice implications within the Nigerian e-governance context. To holistically investigate this case, this study employs the Critical Socio-Technical Usability Analysis (CSTUA), inspired by the critical visual semiotic analysis of the ethnic and racial classification questions on the 2010 U.S. Census form (Balzhiser et al., 2019). The CSTUA moves beyond basic technical assessments of a website's accessibility and functionality by adopting a critical lens to examine how seemingly neutral and usable design choices can subtly perpetuate systemic social inequities. This approach will scrutinize the NIMC website to uncover how its design and communication strategies severely exclude diverse user groups in Nigeria, focusing on access, inclusion, and linguistic equity. The core premise of this framework is that effective and equitable e-governance requires a holistic approach that prioritizes both usability and social justice considerations. This framework is grounded in the synthesis of usability principles and social justice arguments presented in the preceding literature review. It recognizes that usability is not a value-neutral concept but is inherently shaped by social,

cultural, and political contexts. The CSTUA will guide the evaluation of the NIMC website through the following themes:

1. *User-Centered Design (UCD) – Critically Examined for Inclusivity*

Drawing from UCD studies emphasizing the importance of iterative testing, usability heuristics, and inclusive research methodologies (Norman, 2013; Nielsen, 1993; Rubin & Chisnell, 2008), this study examines how the NIMC website may be refocused to prioritize accessibility, intuitive interaction, and alignment with user needs. Complimenting the Nielson's heuristics, this study challenges the universal notion of "user" by foregrounding decolonial and participatory frameworks by Agboka (2021) and context-specificity with power asymmetries in user research by Walton et al. (2019) to effectively interrogate power dynamics and cultural situatedness in design practices. Thus, the CSTUA provides the following guidelines for implementation, which will be used in this study and readily available for future practitioners to adopt in their work.

Here are a few guiding questions to consider for evaluating inclusivity in UCD:

- Whose needs are prioritized in the system's design and functionality? Whose assumed digital literacy, language proficiency, and access to necessary resources does the system's primary interface and core functionality implicitly require?
- How does the system's overall design (e.g., interaction patterns, information architecture) accommodate or exclude users who may not fit this assumed profile (e.g., non-dominant language speakers, users in resource-constrained environments, those with low digital literacy)?
- Are user research and feedback mechanisms evident, and if so, do they appear to be inclusive of diverse user perspectives? Is there evidence of participatory design approaches that incorporate the voices of marginalized communities?

2. *Rhetorical Accessibility – Beyond Web Content Accessibility Guidelines (WCAG) Compliance*

Building on the technical foundation of the Web Content Accessibility Guidelines (WCAG), this study adopts a rhetorical approach to accessibility, extending Melonçon's (2017) advocacy for inclusivity through participatory affordances that recognize users with disabilities and multilingual needs. The analysis goes beyond basic WCAG compliance to ask:

- Does the system's visual and textual rhetoric actively represent and affirm the presence of users with accessibility needs, or does it functionally exclude them?
- Are accessibility features integrated seamlessly into the system's design from conception, or do they appear as retrofitted additions?
- How do accessibility implementations (e.g., alt-text, captions) account for the specific linguistic and cultural contexts of users (e.g., meaningful descriptions in local languages or culturally relevant content)?

3. *Plain Language and Linguistic Equity*

Drawing from plain language principles focusing on clarity, conciseness, and audience-centered writing (Redish, 2007; Dreher, 2020), this paper analyzes the website's communication strategies, focusing on clarity, conciseness, and linguistic inclusivity. In addition, this study employs Haas's (2012) and Jones and Williams's (2017) critique of linguistic power structures, positioning "plain language" as not just a technical fix but a tool for equity. This study uses the following questions to guide the investigation:

- Whose linguistic norms (e.g., formal official language, bureaucratic jargon) are mostly privileged by the system's content and terminology?
- To what extent does the system offer essential content, instructions, and services in Indigenous or local languages, or does it perpetuate a monolingual dominance that acts as a barrier for non-dominant language speakers?
- Does the system's language make complex processes clear and accessible to all citizens, or does it create a divide?
- This framework will guide the comprehensive analysis of the identified case study, ensuring that the website is for its rhetorical and ethical impacts on diverse users.

Case Analysis: CSTUA Analysis of NIMC's Website

This section analyzes the NIMC website (https://nimc.gov.ng) using the CSTUA described in the previous section. The analysis is structured around the three core components of the framework: User-Centered Design, Rhetorical Accessibility, and Plain Language and Linguistic Equity. For each component, this study identifies the usability and social justice challenges in conventional web practices that may seem unproblematic to the average user.

To illustrate these usability and justice-oriented challenges on the website, a quick glance at the homepage features NIMC's attempt to provide users with quick access to key information and services, aligning with basic UCD principles of efficiency and discoverability. As mentioned earlier, this interface and language choice may seem effective for the average digitally literate English speaker. However, the CSTUA lens refocuses our gaze on the social and cultural context of the average users. A heavy reliance on English as the only language excludes the three main Indigenous languages in the country (Igbo, Yoruba, and Hausa). The linguistic exclusion of other Indigenous languages is a critical usability issue that needs to be addressed. The irony of this systemic exclusion is that the NIMC's mission is to create a National Digital Identity for citizens and legal residents to affirm their identity. However, the Commission alienates an estimated 47% of Nigerians who lack proficiency in the English language (Ugwuanyi, 2021). By designing its website and enrollment processes solely in English— a colonial legacy language spoken fluently by an estimated 53% of the population without the option to toggle between other indigenous languages —NIMC inadvertently reinforces systemic exclusion, particularly among indigenous groups who predominantly communicate in languages like Hausa, Yoruba, or Igbo (Mhute & Mavengano, 2024). Figure 1 below presents a screenshot of the homepage with no option to toggle to other languages:

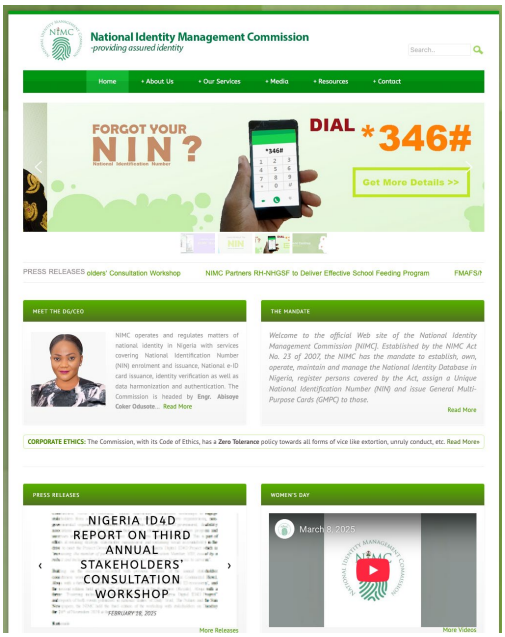


Figure 1 - Screenshot of the homepage from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

This linguistic disconnect illustrated in Figure 1 undermines the agency's goal of inclusive digital citizenship, illustrating a paradox where a system meant to unify and authenticate identities instead reinforces marginalization by privileging colonial linguistic norms over local languages, which Mignolo (2011) describes as a form of digital coloniality. Melonçon (2017) critiques this generic persona solution whereby designers (NIMC in this case) adopt a "one-size-fits-all" approach to digital intervention, reinforcing the top-down approach Walton et al. (2019) describe as fundamentally flawed because it fails to account for the crucial role of context and the situated experiences of users, particularly those from marginalized communities.

Beyond the discriminatory gesture towards other non-fluent English speakers, NIMC's heavy reliance on downloadable PDFs, as illustrated in Figure 2, is an approach that fails to acknowledge the persistent digital divide in Nigeria, which, according to a report by CNN in 2018, was described as the poverty capital of the world after overtaking India (CNN, 2018). Downloading these forms requires compatible smart devices and substantial data consumption, which may pose a considerable financial burden for many Nigerian citizens who face high data costs and limited disposable income.

Figure 2. Screenshot of Downloadable Enrollment Form from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

The CSTUA frameworks require designers to rigorously analyze the broader socio-technical context of use, which includes the infrastructural limitations and socio-economic realities that shape user experiences in diverse communities. Ignoring these social contexts emulates a "colonial approach" to e-governance that is deeply rooted in Eurocentric digital norms by visually erasing localized epistemologies (Agboka, 2021; Sun, 2012).

However, NIMC offers a positive step towards participatory design by integrating user feedback survey forms. Figure 3 portrays NIMC's attempt to gather user input and move towards a more citizen-centered approach that recognizes the needs of various users.

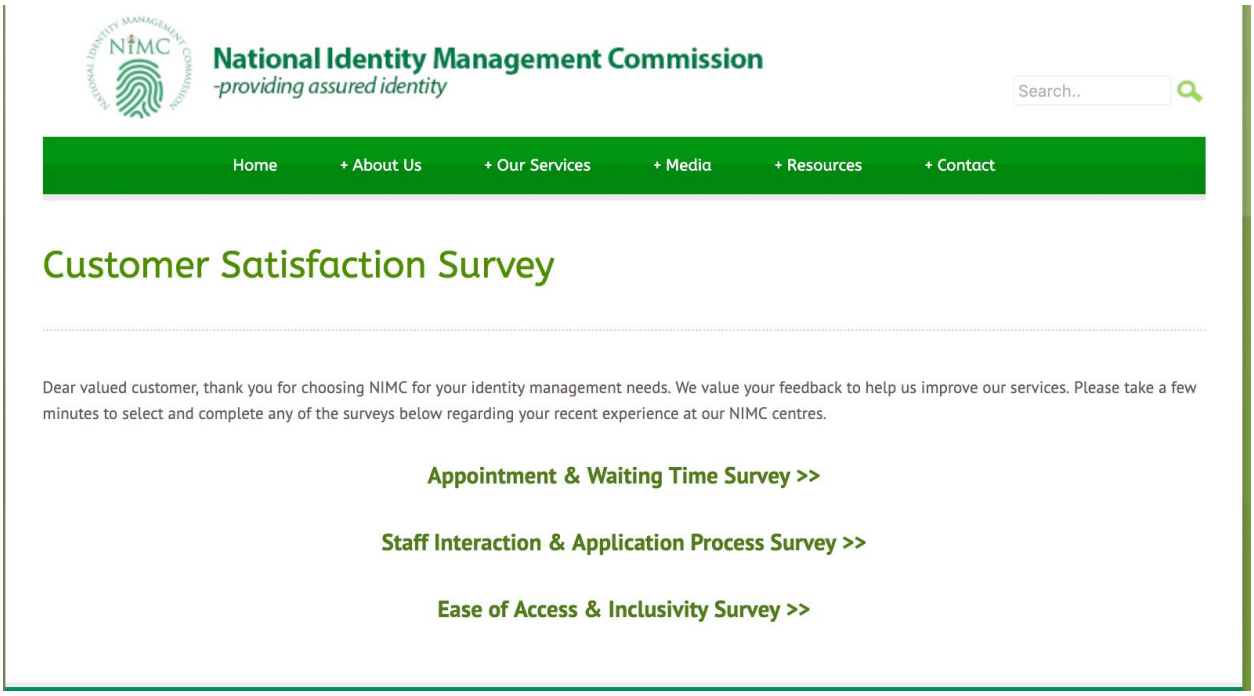


Figure 3- Screenshot of User Feedback Form from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

This approach aligns with Agboka's (2013) stance on the importance of participatory localization in ensuring technical communication practices are culturally appropriate, ethically principled, and address the real needs of the specific users. Walton et al. (2019) also mention the significance of participatory methods in producing socially-just design. A closer inspection of the Ease of Access & Inclusivity Survey further demonstrates NIMC's attempt to accommodate users with disability. From Figure 4 below, the participatory approach reveals a significant effort by NIMC to promote inclusivity by requesting feedback from persons living with a disability. This could be seen as a preliminary step to move beyond a purely top-down design approach and

incorporate user voices into the website's evolution.

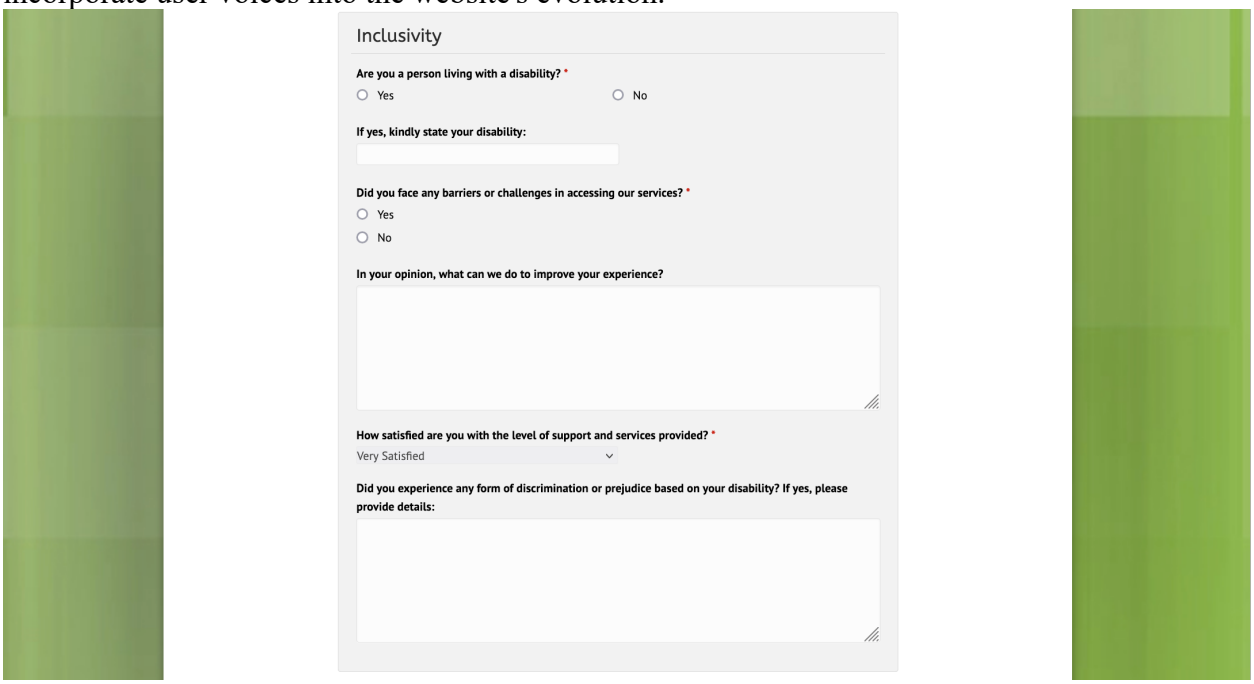


Figure 4- Screenshot of Inclusivity Feedback Form from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

While this is a commendable participatory approach to e-governance, this effort may be undermined by an apparent failure to adhere to basic accessibility compliance. A CSTUA of the website's accessibility accommodations reveals a clear contrast to the potential of inclusivity suggested in Figure 4. A technical evaluation of the website's homepage using accessibilitychecker.org reveals a concerning reality: the NIMC website remains non-compliant with WCAG guidelines and continues to marginalize key user groups. Figures 5, 6, and 7 highlight persistent accessibility violations that directly impact users with disabilities, specifically deaf-blind and low-visioned individuals. These findings reveal the website's ongoing failure to implement fundamental accessibility features necessary for these user groups, despite any potential intentions expressed through a participatory survey form. This erroneous oversight is a serious and unacceptable misstep because this is a very basic integration that every website requires to pass the accessibility check. Beyond the ethical concern of marginalizing certain underserved groups, NIMC, as an agency, is liable for accessibility lawsuits. Ignorance is not an

excuse according to law. Figures 5, 6, and 7 feature screenshots from the accessibility assessment from accessibitychecker.org:

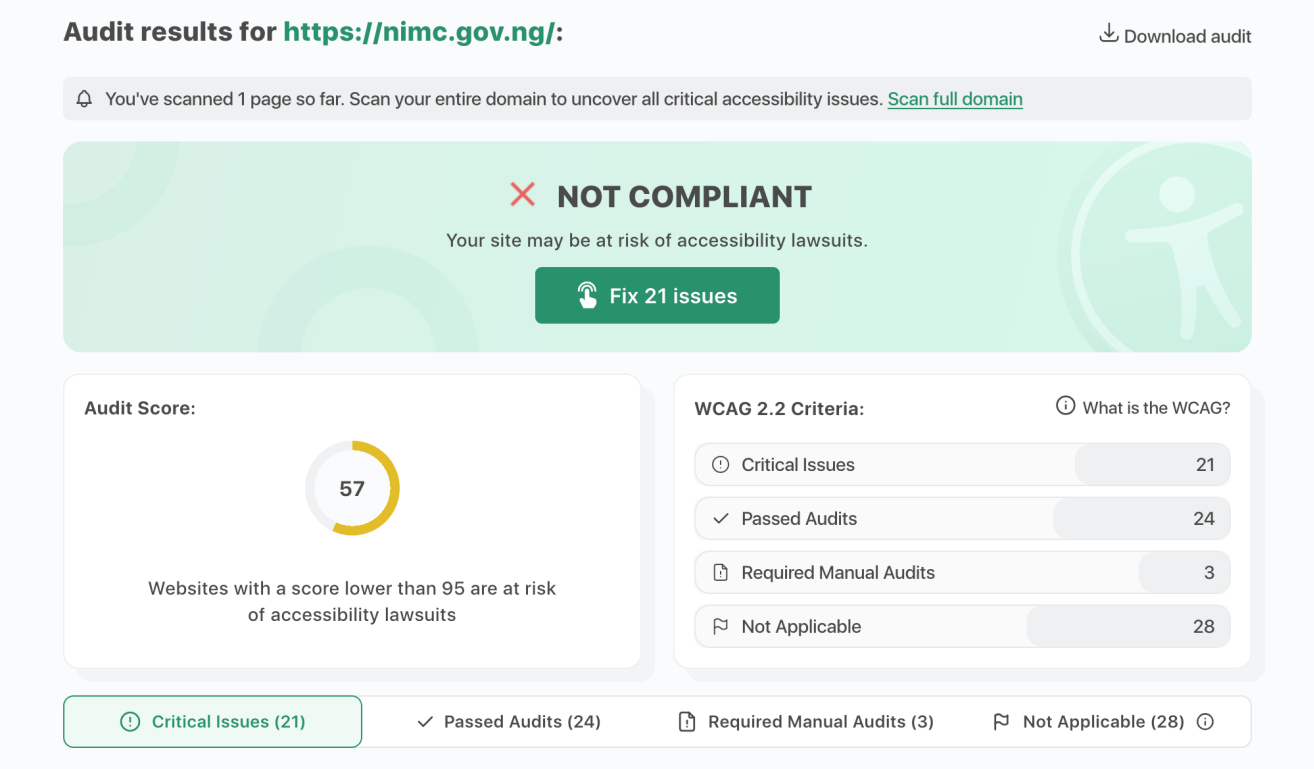


Figure 5. Screenshot of Audit Result from Accessibilitychecker.org from (Accessibilitychecker.org), Copyright [2025] by NIMC. Fair use for academic purposes.

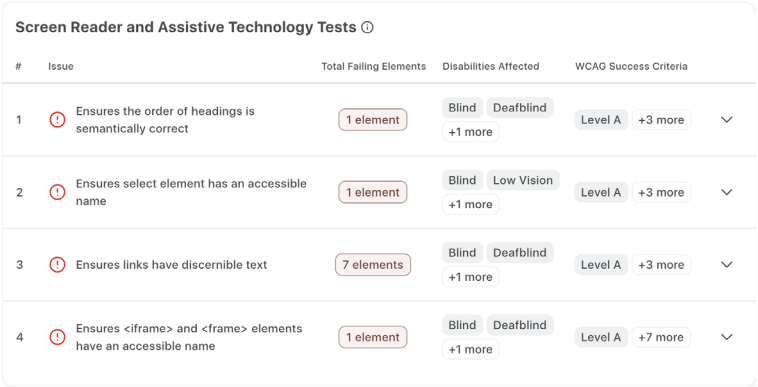


Figure 6. Screenshot of Screen Reader and Assistive Tech Result from (Accessibilitychecker.org), Copyright [2025] by NIMC. Fair use for academic purposes.

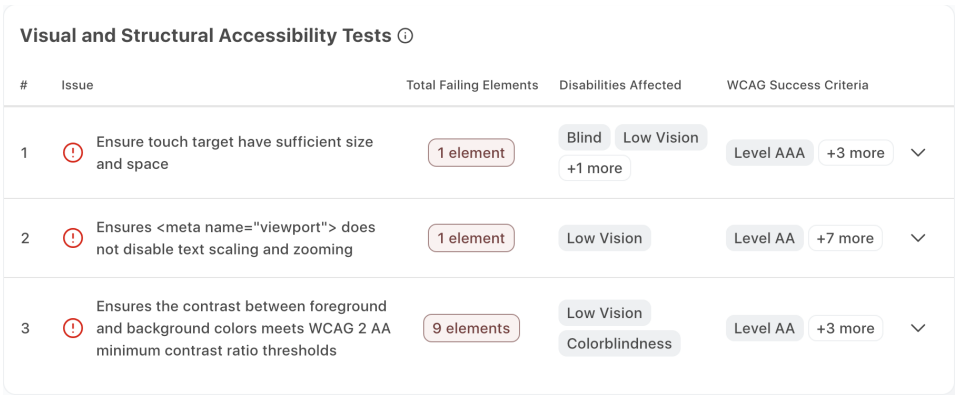


Figure 7. Screenshot of Visual and Structural Accessibility Tests from (Accessibilitychecker.org), Copyright [2025] by NIMC. Fair use for academic purposes.

These findings from a basic evaluation of just one page strongly suggest that a thorough investigation may uncover even more extensive accessibility failures. This raises serious concerns about NIMC's potential complicity in actively disadvantaging disabled users, revealing a deeper and more systemic social justice issue of digital inequity within Nigerian e-governance. Moreover, the constant reliance on English language on the participatory feedback form despite Nigeria's diverse linguistic further marginalizes multilingual disabled users. These findings suggest that the participatory survey, in its current form, may be performative rather than transformative (Banks, 2006). In addition, Oswal (2013) critiques this superficial approach toward user-centeredness, arguing that true inclusivity requires more than afterthought accommodations. In this case, the accessibility feedback form serves as a retrofitted solution used to tick the accessibility checkbox on the NIMC website. Overall, while the survey form represents a potentially positive step, its impact is arguably negated by the website's continued non-compliance with basic accessibility standards, highlighting a critical socio-technical barrier towards inclusive design.

Moving beyond the technical and functional missteps, Melonçon (2017) guides the study to uncover the ableist rhetoric embedded across the website as depicted in Figure 8 below:

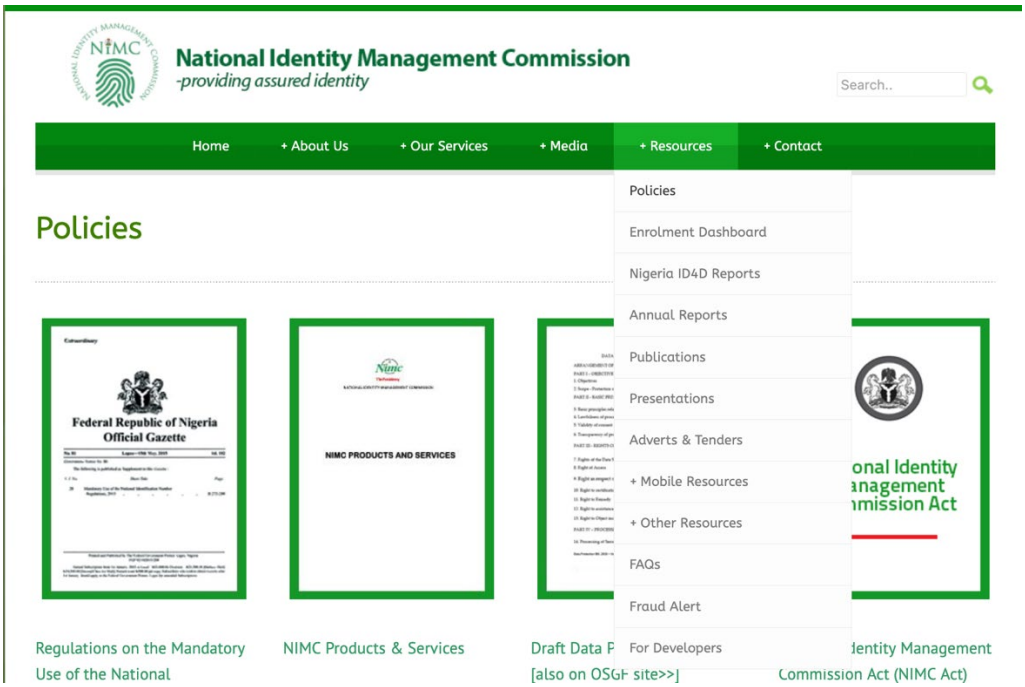


Figure 8. Screenshot of Resource Section from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

A conventional practice in web design is to create a resource page or link for individuals living with disabilities. This resource page may guide these individuals on how to effectively navigate the website or articulate other relevant information for the group. In this case, there is an evident lack of imagery, resources, or content that represents people with disabilities. Figure 8 highlights the options in the resource section of the page, which would have been an ideal area to include resources or links for individuals living with disability. Unfortunately, this section is rhetorically silent on the issue of disability –No case studies, testimonials, or images depict disabled Nigerians. Melonçon (2017) argues that rhetorical accessibility requires intentional effort to actively amplify marginalized voices beyond superficial technical accommodations or retrofits (survey forms). By presenting a website void of disability-specific content, NIMC visually reinforces the non-disabled individual as the normative and implicitly "default" user of the NIMC website (Palmeri, 2006).

In addition, a quick search for "disability" on the website produces two results. One is a 2025 report on annual stakeholders' workshop while the other is a 2018 report on the same workshop. The fact that these limited results point only to indirect mentions within workshop reports, and not to direct accessibility information or user support, presents a concerning lack of dedicated disability-focused content.

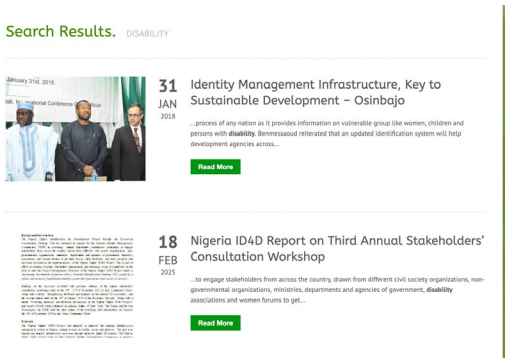
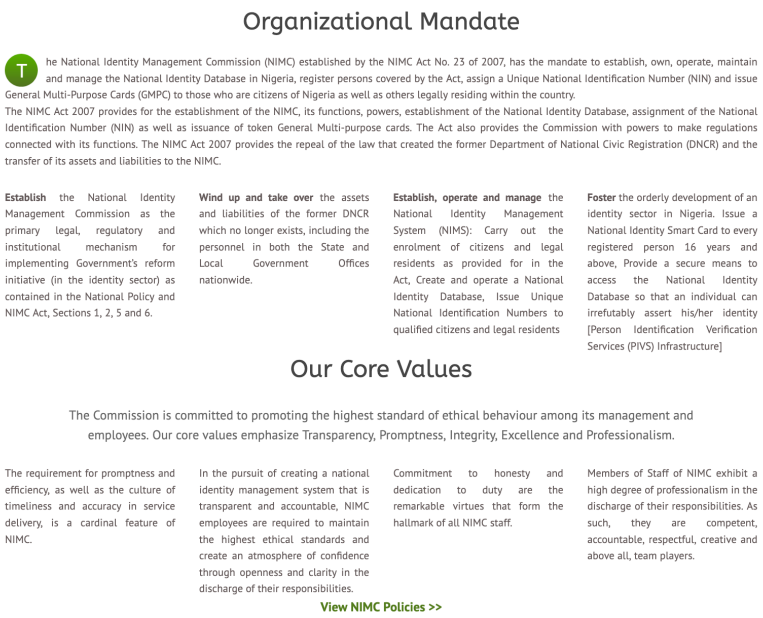


Figure 9. Screenshot of Search Result for Disability from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

From the search results presented in Figure 9, it is evident that at the management level, individuals living with disabilities are internally recognized. However, this study is focused on the explicit user-centered accommodations, and the absence of relevant content for users living with disabilities further reinforces the ableist narrative across the website.
According to a report by the World Health Organization (WHO), an estimated 29 million out of 195 million, which constitutes Nigeria's population, currently live with disabilities (World Bank, 2020). By failing to recognize Nigeria's accessibility realities, NIMC perpetuates systemic inequities through its "checkbox approach" to accessibility, which Melonçon (2017) argues against. Allocating a resource section for individuals with disabilities should not be an afterthought but a prioritized component of any e-governance platform committed to serving all citizens equitably.

Beyond accessibility concerns, equitable access also depends on clear and concise communication. The website's linguistic choices are key factors to consider within our social justice framework, as language is not neutral but a powerful tool that can either facilitate inclusion or perpetuate existing inequalities (Jones & Williams, 2018). To analyze the website for plain language principles, this study identified a page with a significant block of text. The page identified for this analysis is the About Us page (https://nimc.gov.ng/about-us/). This page is designed to inform the public about the legal and functional basis of NIMC. A CSTUA of this page reveals a series of deviations from plain language principles, but most importantly, it presents significant social justice concerns.



Organizational Mandate

The National Identity Management Commission (NIMC) established by the NIMC Act No. 23 of 2007, has the mandate to establish, own, operate, maintain and manage the National Identity Database in Nigeria, register persons covered by the Act, assign a Unique National Identification Number (NIN) and issue General Multi-Purpose Cards (GMPC) to those who are citizens of Nigeria as well as others legally residing within the country.

The NIMC Act 2007 provides for the establishment of the NIMC, its functions, powers, establishment of the National Identity Database, assignment of the National Identification Number (NIN) as well as issuance of token General Multi-purpose cards. The Act also provides the Commission with powers to make regulations connected with its functions. The NIMC Act 2007 provides the repeal of the law that created the former Department of National Civic Registration (DNCR) and the transfer of its assets and liabilities to the NIMC.

Establish the National Identity Management Commission as the primary legal, regulatory and institutional mechanism for implementing Government's reform initiative (in the identity sector) as contained in the National Policy and NIMC Act, Sections 1, 2, 5 and 6.

Wind up and take over the assets and liabilities of the former DNCR which no longer exists, including the personnel in both the State and Local Government Offices nationwide.

Establish, operate and manage the National Identity Management System (NIMS): Carry out the enrolment of citizens and legal residents as provided for in the Act, Create and operate a National Identity Database, Issue Unique National Identification Numbers to qualified citizens and legal residents

Foster the orderly development of an identity sector in Nigeria. Issue a National Identity Smart Card to every registered person 16 years and above, Provide a secure means to access the National Identity Database so that an individual can irrefutably assert his/her identity [Person Identification Verification Services (PIVS) Infrastructure]

Our Core Values

The Commission is committed to promoting the highest standard of ethical behaviour among its management and employees. Our core values emphasize Transparency, Promptness, Integrity, Excellence and Professionalism.

The requirement for promptness and efficiency, as well as the culture of timeliness and accuracy in service delivery, is a cardinal feature of NIMC.

In the pursuit of creating a national identity management system that is transparent and accountable, NIMC employees are required to maintain the highest ethical standards and create an atmosphere of confidence through openness and clarity in the discharge of their responsibilities.

Commitment to honesty and dedication to duty are the remarkable virtues that form the hallmark of all NIMC staff.

Members of Staff of NIMC exhibit a high degree of professionalism in the discharge of their responsibilities. As such, they are competent, accountable, respectful, creative and above all, team players.

View NIMC Policies >>

Figure 10. Screenshot of About Us Page for Plain Language Analysis from (https://nimc.gov.ng/), Copyright [2025] by NIMC. Fair use for academic purposes.

As shown in Figure 10, the block of the text presents a significant comprehension challenge. The absence of visual cues or subheadings that will enable users to quickly process and locate information is a detour from plain language principles (Redish, 2007). This makes it challenging for users to easily comprehend the mandate or core values of the organization. Furthermore, the vocabulary employed gestures bureaucratic and legalistic jargon. For instance, phrases like "issuance of token General Multipurpose cards" in Figure 11 assume users are familiar with specific identity management terms. Kimble (2017) argues that plain language necessitates using clear and simple vocabulary, avoiding jargon and technical terms that can confuse or exclude readers.

In addition, the non-compliance of plain language principles is evident in the sentence structures. For example, the opening sentence: *"The NIMC Act 2007 provides for the establishment of the NIMC, its functions, powers, establishment of the National Identity Database, assignment of the National Identification Number (NIN) as well as issuance of token General Multi-purpose cards."* is grammatically correct but uses multiple legal concepts and complex phrasing that may be incomprehensible to some users. Schriver (1997) highlights the importance of concise and direct sentence construction in plain language. She recommends the use of shorter sentences and active voice to enhance readability. From the linguistic choices identified from the analysis of Figure 10, this evaluative study raises the following question: Whose understanding is prioritized by the linguistic choices on the website, and whose understanding is potentially marginalized or excluded?

To further explore the ethical dimensions of the NIMC self-service portal's usability challenges, this study draws on direct voices of Nigerians on social media expressing their dissatisfaction with the platform and how it has deprived them of their basic rights to equitable access and timely identity services. For instance, as illustrated in Figure 11 below, a user laments the persistent server downtime that stalled their NIN application for over a month, stating, "Why is it

so difficult to get my NIN number after more than 1 month of application? It's always server/website down. This is very frustrating" (Figure 11). Another user notes, "NIN services has been down for a long time now... Can't log into NIMC app. Can't generate V-NIN. This is shameful" (Figure 11).

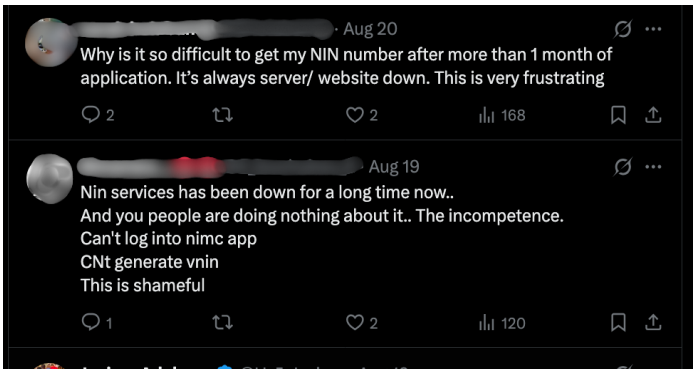


Figure 11. Anonymized excerpt from Nigerian user complaints on X (formerly Twitter) regarding the NIMC self-service portal, September 2025.

This anonymized excerpt (refer to Figure 11) corroborates CSTUA's critique of Plain Language deficits as reflected in the vague error messages that hinder pathways to resolution. Thus, this obscurity underscores the social justice implications, where technical failures exacerbate exclusion for rural, low-literacy, or economically vulnerable communities.

Drawing from Jones and Williams (2017), this analysis reveals how the bureaucratic and obscure language, as demonstrated in Figure 10 and 11, is a form of linguistic gatekeeping that systemically marginalizes underserved groups. This is the disproportionate reality for Nigerians with lower levels of education or individuals from rural communities with limited exposure to formal English. It is important to emphasize that this social inequity may be unintentional, but the real-world harm inflicted upon marginalized citizens remains the same. Ignorance in this context is not an excuse for perpetuating exclusion. In essence, technical communicators' linguistic choices can be complicit in facilitating oppressive practices toward underserved groups (Katz, 1992). Regardless of intent, the website's linguistic choices function as a tool for the digital disenfranchisement of a significant portion of the Nigerian populace (Jones & Williams, 2018). As such, this study asks that design practitioners recognize their ethical responsibilities and actively work to dismantle linguistic barriers in order to promote linguistic justice in communicative practices.

Broader Implications

Despite NIMC's aim for user-centeredness, the design implementation still reinforces systemic exclusion. Such superficial attention to usability is insufficient, especially if approaches do not inquire how to foster equity and inclusion but perpetuate existing disparities. Technical communicators (design practitioners) must consider how design choices explicitly and tacitly marginalize disadvantaged groups. Those who remain oblivious to these realities and the socio-political nature of digital governance become active participants in inequity. Creating e-governance platforms without multilingual support may simplify development and standardize

interfaces. However, it effaces the linguistic diversity of a country with rich cultural heritage and the rights of non-English speakers to access public services.

As scholars in technical communication have constantly emphasized social justice and user empowerment (Jones & Walton, 2018; Acharya, 2022; Agboka, 2013; Sun, 2020), practitioners must recognize that true usability cannot be measured objectively. As this research demonstrates, even with the right intention of centering users in the design, digital platforms can still perpetuate exclusion if a critical approach is not adopted. This requires a shift from simply focusing on efficiency to prioritizing equitable user experiences that account for diverse sociocultural systems (Katz, 1992). Moreover, Frost (2015) posits that true efficiency in technical communication can only be achieved by considering the varied needs and experiences of all stakeholders rather than adhering to the default monolithic standard of expediency. Through her Apparent Feminist Lens, it is evident that true efficiency emerges when all relevant stakeholders are adequately involved. By embracing a social justice design approach, practitioners can create systems that are more efficient and truly empowering.

Limitations

This study acknowledges several methodological limitations that grounds its scope. First, the analysis solely addresses a single case study. While the secondary sources explored in this study may have covered several case studies within the e-governance scope, broader sampling of multiple e-governance platforms is recommended to validate findings through comparative analysis. Second, the absence of direct user input in this study limits the depth of lived experiences captured. While secondary sources like academic reports and social media feedback are sufficient for the scope of this study, future research will benefit from direct primary user input, such as interviews or participatory feedback loops with affected groups.
Furthermore, while the CSTUA is applicable in theory, this study recognizes several limitations that may hinder its application. Practitioners may face challenges in convincing industries and organizations to prioritize social justice-oriented usability. Moreover, with the emergence of the Department of Government Efficiency (DOGE) championed by Elon Musk in the Trump administration, there has been a clarion call to prioritize efficiency in governance and a blatant neglect of the social justice implications. The United States' influence in digital governance across the world cannot be overemphasized, and this narrative of divorcing equity from efficiency is a serious concern that requires intervention. Accordingly, this research calls for further study to investigate the broader societal consequences and social justice implications of e-governance or actions by governmental bodies prioritizing expediency, such as those conducted by DOGE.

Call for Action

This research points to other crucial directions for future technical communication research. Beyond e-governance, there is a need for more interdisciplinary, micro-focused, nuanced explorations of digital platforms, specifically in places marked by significant digital divides and linguistic diversity. The CSTUA is designed as an adaptable toolkit for investigating systems across diverse global contexts. The strength of the CSTUA lies in its integration of universal usability principles with critical awareness of social, cultural and linguistic dynamics. This

makes the framework transferable to any situation where technology and broader complex social structures are intertwined. The significant value is in the rhetorical inquiry framed as checklists or questions. The framework directs the researcher or practitioner to ask critical questions, such as: Who is centered? Who is marginalized? What historical power structures are being reproduced or challenged by this technology? What are the specific material, linguistic, and cultural realities of its intended users?

Transferring this analytical tool should be a process of principled adaptation and not a mechanical copy and paste effort. For example, one may examine how interface design choices like algorithmic wage calculation or performance metrics might obscure exploitative labor practices, similar to Irani's (2015) investigation of Amazon Mechanical Turk labor practices. The Social Justice lens may examine a potential algorithmic bias against certain demographics. While a Critical Usability lens was used in this study, other research may leverage the framework's capacity through a postcolonial lens, critical race theory, feminist technoscience, or labor studies. A qualitative approach is highly recommended to produce a nuanced and ethically unbiased result.

Moreover, to effectively prepare technical communication students to engage in this critical approach, the pedagogy must continue to evolve to equip students with the relevant skills needed to engage in ethically grounded research that addresses and recognizes indigenous user needs and requirements in real-world contexts (Itchuaqiyaq & Matheson, 2021). Specifically, in designing the curricula, instructors may consider projects that require students to explore hands-on, participatory approaches in their research, which may involve partnering with local organizations serving underserved populations. For example, students may be tasked to adopt the CSTUA to design or examine communication materials for a local organization in their community. The key requirement will be to tailor the design for the community members with varying levels of literacies and access. This process will enable students to critically reflect on their own positionality and biases. While many TC programs include usability courses, there is a need to explicitly incorporate social justice frameworks and critical analysis into these courses (Jones et al., 2016; Walton et al., 2019). TC programs should strategically incorporate critical lenses such as disability studies, critical race theory, and feminist perspectives directly into usability coursework. With this approach, students are aware of the broader impact of linguistic and design choices when working on usability projects.

Finally, informed by the analysis of NIMC's website, this study argues for an urgent shift toward a critical socio-technical approach to e-governance. Implementing this approach requires an institutionalized framework that is anchored by equity, social justice, and inclusionary objectives. This framework will require scrutiny to ensure it is actionable and not performative. For example, the U.S. government's 2017 Section 508 update required government agencies to strictly adhere to the WCAG 2.0 guidelines when designing their platforms (Section508.gov, 2018). The result, which accounted for over 80% compliance, illustrates an actionable plan for other Global South nations to adopt. In addition, government agencies may implement the SPROC (strategy, process, resources, organization, and culture) model to critically examine design at every organizational level (Cambridge Engineering Design Centre, 2019). Through this informed systematic approach, institutions can efficiently recognize the gaps in their digital

infrastructures, and implement a system that prioritizes inclusivity, accessibility and linguistic equity.

In promoting ethically grounded technical communication practices, advocacy and empowerment should serve as a framework for inclusivity. By embracing this paradigm shift towards socially-just communication practices, technologies and digital ecosystems can be designed to offer equitable, accessible, and empowering solutions for all citizens. Nobody should be left behind on the road to digitalization. Usable design systems require a commitment from policymakers, practitioners, researchers, and educators to prioritize social justice as a core value from which any development and implementation of digital interventions can emanate.

References

Abdulkareem, A. K., & Ramli, R. M. (2021). Does trust in e-government influence the performance of e-government? An integration of information system success model and public value theory. *Transforming Government: People, Process and Policy*, *16*(1), 1–17. https://doi.org/10.1108/TG-01-2021-0001

Acharya, K. R. (2022). Promoting social justice through usability in technical communication: An integrative literature review. *Technical Communication, 69*(1), 6–26. https://doi.org/10.55177/tc584938

Adepoju, S. A., Shehu, I. S., & Bake, P. (2016). Accessibility evaluation and performance analysis of e-government websites in Nigeria. *Journal of Advances in Information Technology, 7*(1), 49–53.

Afieroho, P., Perkins, R., Zhou, X. T., Hoanca, B., & Protasel, G. (2023). Adopting e-government to monitor public infrastructure projects execution in Nigeria: The public perspective. *Heliyon, 9*(8), Article e18552. https://doi.org/10.1016/j.heliyon.2023.e18552

Agboka, G. Y. (2013). Participatory localization: A social justice approach to navigating unenfranchised/disenfranchised cultural sites. *Technical Communication Quarterly, 22*(1), 28–49. https://doi.org/10.1080/10572252.2013.730966

Agboka, G. Y. (2021). "Subjects" in and of research: Decolonizing oppressive rhetorical practices in technical communication research. *Journal of Technical Writing and Communication, 51*(2), 159–74. https://doi.org/10.1177/0047281620901484

Alazemi, N. N., & Al-Shehab, A. J. (2024). Factors affecting user experience of e-government services: An exploratory review. *International Journal of Advanced Trends in Computer Science and Engineering, 13*(2). https://doi.org/10.30534/ijatcse/2024/071322024

Awoleye, M. O., Siyanbola, W. O., & Oladipupo, O. F. (2008). Adoption assessment of Internet usage amongst undergraduates in Nigeria Universities—A case study approach. *Journal of Technology Management & Innovation, 3*(1), 84–89.

Balzhiser, D., Pimentel, C., & Scott, A. (2019). Matters of form: Questions of race, identity, design, and the US census. *Technical Communication Quarterly, 28*(1), 3–20.

Banks, A. J. (2006). *Race, rhetoric, and technology: Searching for higher ground*. Lawrence Erlbaum Associates.

Bay, J., Johnson-Sheehan, R., & Cook, D. (2018). Design thinking via experiential learning: Thinking like an entrepreneur in technical communication courses. *Programmatic Perspectives, 10*(1), 172–200.

Black, S., Cardinal, A., Garcia Santana, O., Gonzales, L., Lawrence, H., Lee, S., Martinez, D., Rivera, N., Shelton, C., & Walwema, J. (2024). A linguistic justice statement for the field of professional, technical, and scientific communication (PTSC). In V. Bhatia & S. Bremner (Eds.), *The Routledge handbook of language and professional communication* (pp. 342–53). Routledge. https://doi.org/10.4324/9781003455158-35

Cambridge Engineering Design Centre. (2019). *Inclusive design toolkit* (Version 2.0). University of Cambridge. https://www-edc.eng.cam.ac.uk/files/idtoolkit.pdf

CNN. (2018, June 26). Nigeria overtakes India in extreme poverty ranking. *CNN Business*. https://www.cnn.com/2018/06/26/africa/nigeria-overtakes-india-extreme-poverty-intl/index.html

Data Reportal. (2024). *Digital 2024: Nigeria*. https://datareportal.com/reports/digital-2024-nigeria

Digital Watch. (2024). Nigeria's multilingual AI initiatives in 2024. *Digital Watch Observatory*. https://dig.watch/updates/nigeria-launches-first-multilingual-large-language-model-for-inclusive-ai-development

Dreher, K. (2020, July). Plain language in the sciences: A qualitative meta-study of research. In *2020 IEEE International Professional Communication Conference (ProComm)* (pp. 182–83). IEEE. https://doi.org/10.1109/ProComm48883.2020.00038

Ekweariri, D. (2020). The passive origin of the institutionalization of power inequality in the meaning/experience of womanhood in Igboland. *Frontiers in Sociology, 5*, Article 8. https://doi.org/10.3389/fsoc.2020.00008

Elechi, O. O. (2008). The Igbo indigenous justice system. In Viviane Saleh-Hanna (Ed.), *Colonial systems of control: Criminal justice in Nigeria* (pp. 395–416). University of Ottawa Press.

Fatile, J. O. (2012). Electronic governance: Myth or opportunity for Nigerian public administration? *International Journal of Academic Research in Business and Social Sciences, 2*(9), 122.

Frost, E. A. (2015). Apparent feminism as a methodology for technical communication and rhetoric. *Journal of Business and Technical Communication, 30*(1), 3–28. https://doi.org/10.1177/1050651915602295

Galal-Edeen, G. H., & Abdel-Fattah, M. A. K. (2008, July). An evaluation approach for multi-channel e-government services. *Proceedings of the 8th European Conference on e-Government*, ECEG. 241–50.

Haas, A. M. (2012). Race, rhetoric, and technology: A case study of decolonial technical communication theory, methodology, and pedagogy. *Journal of Business and Technical Communication, 26*(3), 277–310. https://doi.org/10.1177/1050651912439539

Hart-Davidson, W. (2001). On writing, technical communication, and information technology: The core competencies of technical communication. *Technical Communication, 48*(2), 145–55.

Ifinedo, P. (2006). Towards e-government in a Sub-Saharan African country: Impediments and initiatives in Nigeria. *Journal of E-Government, 3*(1), 3–28.

Irani, L. (2015). Difference and dependence among digital workers: The case of Amazon Mechanical Turk. *South Atlantic Quarterly, 114*(1), 225–34. https://doi.org/10.1215/00382876-2831665

Itchuaqiyaq, C. U., & Matheson, B. (2021). Decolonizing decoloniality: Considering the (mis)use of decolonial frameworks in TPC scholarship. *Communication Design Quarterly Review, 9*(1), 20–31. https://doi.org/10.1145/3437000.3437002

Jegede, A. S., & Adegoke, O. O. (2016). Advance directive in end of life decision-making among the Yoruba of south-western Nigeria. *BEOnline: Journal of the West African Bioethics Training Program, 3*(3), 41–67.

Jones, N. N., & Walton, R. (2018). Using narratives to foster critical thinking about diversity and social justice. *Key theoretical frameworks: Teaching technical communication in the twenty-first century*, 241–267. https://doi.org/10.7330/9781607327585.c010

Jones, N. N., Moore, K. R., & Walton, R. (2016). Disrupting the past to disrupt the future: An antenarrative of technical communication. *Technical Communication Quarterly, 25*(4), 211–13. https://doi.org/10.1080/10572252.2016.1224655

Jones, N. N., & Williams, M. F. (2017). The social justice impact of plain language: A critical

approach to plain-language analysis. *IEEE Transactions on Professional Communication, 60*(4), 412–29. https://doi.org/10.1109/TPC.2017.2762964

Jones, N. N., & Williams, M. F. (2018). Technologies of disenfranchisement: Literacy tests and Black voters in the US from 1890 to 1965. *Technical Communication, 65*(4), 371–86.

Katz, S. B. (1992). The ethic of expediency: Classical rhetoric, technology, and the Holocaust. *College English, 54*(3), 255–75. https://doi.org/10.58680/ce19929392

Kimble, J. (2017). *Writing for dollars, writing to please: The case for plain language in business, government, and law* (1st edition). Carolina Academic Press.

Korieh, C. J., & Keke, R. C. (2023). Aladinmma (Amala): The foundation and evolution of an Igbo indigenous political system. *Ikenga: Journal of African Studies, 24*(3), 1–23. https://doi.org/10.53836/ijia/2023/24/3/004

Kumar, R. (2020). *Indian ecosystem for mobile-based service delivery*. https://ranjankumar.in/wp-content/uploads/2020/09/indian-ecosystem-for-mobile-based-service-delivery1.pdf

Lawrence, H. (2023). Technical and professional communicators as advocates of linguistic justice in the design of speech technologies. *Technical Communication and Social Justice, 1*(1), 1–21. https://techcommsocialjustice.org/index.php/tcsj/article/view/32

Macrotrends. (2025). *Nigeria electricity access 1990–2025*. https://www.macrotrends.net/global-metrics/countries/nga/nigeria/electricity-access-statistics

Melonçon, L. (Ed.). (2017). *Rhetorical accessability: At the intersection of technical communication and disability studies*. Routledge.

Mhute, I., & Mavengano, E. (2024). Introduction: The nexus between media, language, and political communication in Sub-Saharan Africa. In I. Mhute & E. Mavengano, *Political communication in Sub-Saharan Africa, Volume I* (pp. 1–13). Palgrave Macmillan. https://doi.org/10.1007/978-3-031-48431-5

Mignolo, W. D. (2011). *The darker side of Western modernity: Global futures, decolonial options*. Duke UP. https://doi.org/10.2307/j.ctv125jqbw

Ministry of Communications, Innovation & Digital Economy. (2024). *National Digital Economy and E-Governance Bill, 2024: Draft*. https://fmcide.gov.ng/wp-content/uploads/2024/07/National%20Digital%20Economy%20and%20E-Governance%20Bill,%202024%20-%20Draft.pdf

Mohiuddin, M. G. & Islam, M. M. (2016). Decision making style in Islam: A study of superiority of Shura (participative management) and examples from early era of Islam. *European Journal of Business and Management, 8*(4), 79–88.

Nielsen, J. (1993). *Usability engineering*. Morgan Kaufmann.

Norman, D. A. (2013). *The design of everyday things: Revised and expanded edition*. Basic Books.

OECD. (2024). *OECD digital economy outlook 2024 (Volume 1)*. OECD Publishing. https://www.oecd.org/en/publications/2024/05/oecd-digital-economy-outlook-2024-volume-1_d30a04c9.html

Oghuvbu, E. A., Gberevbie, D. E., & Oni, S. O. (2022). E-governance in Nigeria: Challenges and prospects. *RUDN Journal of Public Administration*, *9*(2), 189–99. https://doi.org/10.22363/2312-8313-2022-9-2-189-199

Okonkwo, N. O., Idika, N. K., & Kalu, S. A. (2024). Digital economy and its implications for

sustainable economic growth in Nigeria. *Advance Journal of Arts, Humanities and Social Sciences, 7*(3), 40–53.

Omeire, E., & Omeire, C. (2014). New wine in old wine skin: An exploration of major constraints to e-government implementation in Nigeria. *European Scientific Journal, 10*(14), 481–87.

Omohwovo, O. E., Olatokun, W. M., & Ojutawo, I. R. (2020). Information and communication technology projects and Nigeria's academic libraries: A design-reality approach. *Library Philosophy and Practice (e-journal)*, 4831.

Onwuatuegwu, I. N. (2020). The Igbo are republican and egalitarian in nature: A philosophical approach. *Sapientia Global Journal of Arts, Humanities and Development Studies, 3*(2). https://www.sgojahds.com/index.php/SGOJAHDS/article/view/76

Oswal, S. K. (2013). Accessible ePortfolios for visually-impaired users: Interfaces, designs, and infrastructures. In K. V. Wills & R. Rice (Eds.), *ePortfolio performance support systems: Constructing, presenting, and assessing portfolios* (pp. 133–52). Parlor Press. https://doi.org/10.37514/PER-B.2013.0490.2.08

Palmeri, J. (2006). Disability studies, cultural analysis, and the critical practice of technical communication pedagogy. *Technical Communication Quarterly, 15*(1), 49–65. https://doi.org/10.1207/s15427625tcq1501_5

Pshenichnikova, A. (2024). *E-government development in Nigeria*. HSE University. https://we.hse.ru/en/irs/cas/passng

Redish, J. (2007). *Letting go of the words: Writing web content that works*. Morgan Kaufmann.

Redish, J. (2010). Technical communication and usability: Intertwined strands and mutual influences. *IEEE Transactions on Professional Communication, 53*(3), 191–201. https://doi.org/10.1109/TPC.2010.2052861

Rossel, P., & Finger, M. (2007). Conceptualizing e-governance. In *Proceedings of the 1st international conference on Theory and practice of electronic governance (ICEGOV '07)* (pp. 399–407). Association for Computing Machinery. https://doi.org/10.1145/1328057.1328141

Rubin, J., & Chisnell, D. (2008). *Handbook of usability testing: How to plan, design, and conduct effective tests* (2nd edition). John Wiley & Sons.

Russ, S., & Hamidi, F. (2021). Online learning accessibility during the COVID-19 pandemic. In S. Rodríguez Vázquez, T. Drake, D. Ahmetovic, & V. Yaneva (Eds.), *W4A '21: Proceedings of the 18th International Web for All Conference* (Article 8). Association for Computing Machinery. https://doi.org/10.1145/3430263.3452445

Salami, Y. K. (2006). The democratic structure of Yoruba political-cultural heritage. *The Journal of Pan African Studies, 1*(6), 67–78.

Sanders, E. B. N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *Co-design, 4*(1), 5–18. https://doi.org/10.1080/15710880701875068

Schriver, K. A. (1997). *Dynamics in document design: Creating text for readers*. John Wiley & Sons.

Section508.gov. (2018). Accessibility news: The Section 508 update. https://www.section508.gov/blog/accessibility-news-the-section-508-Update/

Semenzin, S., Rozas, D., & Hassan, S. (2022). Blockchain-based application at a governmental level: Disruption or illusion? The case of Estonia. *Policy and Society, 41*(3), 386–401. https://doi.org/10.1093/polsoc/puac014

Sucilawati, S. (2020). The concept of shura in Islamic governance practice of shura during the

Caliph Umar Bin Khattab. *The International Journal of Politics and Sociology Research, 8*(1), 18–32.

Sun, H. (2012). *Cross-cultural technology design: Creating culture-sensitive technology for local users*. Oxford UP.

Tham, J. C. K. (2021). *Design thinking in technical communication: Solving problems through making and collaboration*. Routledge.

Ugwuanyi, K. O. (2025). Introduction to the special issue on Nigerian English. World Englishes. Advance online publication. https://doi.org/10.1111/weng.12736

Walton, R., Moore, K., & Jones, N. (2019). *Technical communication after the social justice turn: Building coalitions for action*. Routledge.

Willerton, R. (2015). *Plain language and ethical action: A dialogic approach to technical content in the 21st century*. Routledge.

World Bank. (2001). *Electronic government and the World Bank* [Issues note]. World Bank. https://documents1.worldbank.org/curated/en/527061468769894044/pdf/266390WP0E1Gov1gentina1Final1Report.pdf

World Bank. (2020). *Disability inclusion in Nigeria: A rapid assessment*. https://hdl.handle.net/10986/34073